CLAIMS

1.   Method for operating cooperating, differing devices, particularly of a plant with different controls controlling the same through control sequences and in particular with different control clocks, wherein the clocks of the different controls are interpolated on a common system clock (tTick) and that the control sequences are synchronized in at least one synchronizing device.

2.   Method according to claim 1, wherein operational units of the plant are provided with control signals after synchronization following a further interpolation.

3.   Method according to claim 1 or 2, wherein the different control clocks of the different controls are selected according to a relationship

$$IPO_i = n_i \bullet t_{Tick}, \quad n_i = 1,2,3,\ldots.$$

in which t_{Tick} is an integral multiple of a clock of hardware used for performing the method.

4.   Method according to one of the claims 1 to 3, wherein the interpolation takes place on a common system clock in a common interpolating device for a control.

5. Method according to one of the claims 1 to 4, wherein the axes of the devices are coordinated.

5   6. Method according to one of the claims 1 to 5, wherein synchronization and/or coordination is performed in real time.

7. Method according to one of the claims 1 to 6, wherein
10 through the operational units a modified system clock is proposed to a coordinating device.

8. Method according to claim 7, wherein the coordinating device accepts or refuses the modified system clock.

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9. Method according to claim 7 or 8, wherein for the modified system clock the following applies:

$$t_{Tick}' = 1/n' \bullet t_{Tick}, \quad n' = 1,2,3,\ldots.$$

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10. Method according to claim 8 or 9, wherein following the clock change, a plurality of functional units continue to be operated according to the old system clock.

25 11. Method according to one of the claims 1 to 10, wherein in each case a plurality of devices of a specific device type is operated.

12. Apparatus for operating cooperating, differing devices,
30 particularly of a plant, with different controls controlling the same through control sequences, particularly with

different control clocks, wherein at least one common in-
terpolating device (5.3) for the controls (3.1, 3.2, 3.3)
for interpolating the clocks (IPO$_i$) of the different con-
trols (3.1, 3.2, 3.3) on a common system clock (t$_{Tick}$) and
5 at least one synchronizing device (5) for synchronizing the
control sequences is included.

13. Apparatus according to claim 12, wherein by at least
one further interpolating device (5.5) for interpolating
10 control signals for operational units (6.1a-g) of the devi-
ces following synchronization is included.

14. Apparatus according to claim 12 or 13, wherein a coor-
dinating device (5) for coordinating the control sequences
15 is included.

15. Apparatus according to one of the claims 12 to 14, whe-
rein the synchronizing and/or coordinating devices (5) are
real timable.
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16. Apparatus according to one of the claims 12 to 15, whe-
rein a non-real timable component (2.1) for modifying the
settings of the synchronizing and/or coordinating device
(5) is included.
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17. Apparatus according to one of the claims 12 to 16, whe-
rein at least the synchronizing and/or coordinating device
(5) and a plurality of controls (3.1, 3.2, 3.3) are con-
structed as programming devices implementable on a common
30 computer unit (PC).

18. Apparatus according to one of the claims 12 to 17, wherein further devices can be connected during operation.

5   19. Apparatus according to one of the claims 12 to 18, wherein the common interpolating device (5.3) is constructed for the interpolation of control clocks in the form

$$IPO_i = n_i \bullet t_{Tick}, \; n_i = 1,2,3,\ldots$$

10   in which t_{Tick} is an integral multiple of a clock of hardware used.

20. Apparatus according to one of the claims 12 to 19, wherein the synchronizing and/or coordinating device (5) is
15   constructed for modifying the system clock (t_{Tick}) on request by at least one operational unit (6.1a-g) and for the modified system clock (t_{Tick}') the following applies:

$$t_{Tick}' = 1/n' \bullet t_{Tick}, \; n' = 1,2,3,\ldots$$

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21. Apparatus according to claim 20, wherein the synchronizing and/or coordinating device (5) has an evaluating device (2.6) for evaluating the system load and its result is vital for the modification of the system clock (t_{Tick}).
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